



AMENDMENT

(amendment based upon the provision of Article 11 of said  
Law)

To: Examiner of the Patent Office

1. Identification of the International Application

PCT/JP03/08197

2. Applicant

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4. Item to be amended: Description and Claims

### 5. Subject Matter of Amendment

(1) The words "3 or 4" which appears on page 8, 11th line from the bottom should be amended as "3 to 5".

(2) The words "3 or 4" which appears on page 11, 11th line from the bottom should be amended as "3 to 5".

(3) The words "3 or 4" which appears on page 14, 19th line from the bottom should be amended as "3 to 5".

(4) The words "3 or 4" which appears on page 17, 12th line from the bottom should be amended as "3 to 5".

(5) The words "3 or 4" which appears on page 22, 14th line from the bottom should be amended as "3 to 5".

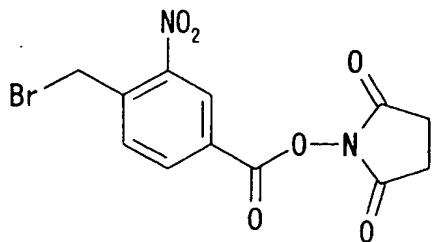
(6) The words "3 or 4" which appears on page 65, last line should be amended as "3 to 5".

(7) The words "3 or 4" which appears on page 70, last line of claim 22 should be amended as "3 to 5".

(8) The words "n=3 or 4" which appears on page 75, first line should be amended as "n is 3 to 5".

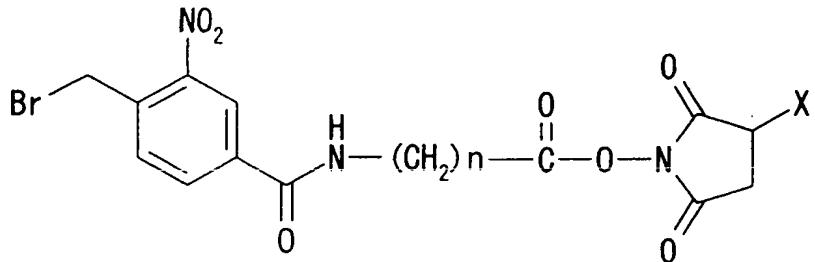
### 6. List of Attached Documents

(1) Replacement sheets of pages 8, 11, 14, 17, 22, 65, 69, 70, 74 and 75



Formula I

Also, the structure containing nitrobenzene can be constructed with a compound represented by the 5 following formula II:

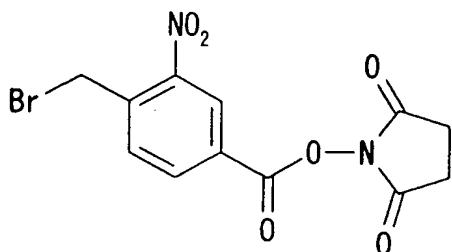


Formula II

(wherein n is 3 to 5, and X is H or  $\text{SO}_3\text{Na}$ ).

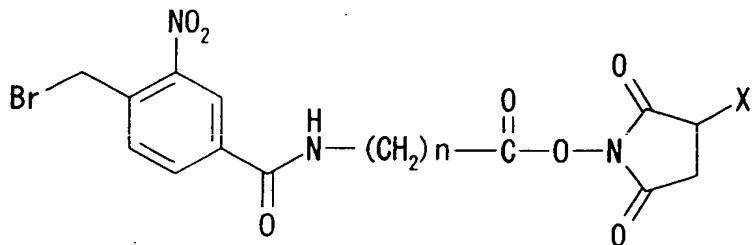
In addition, at that time, it is preferable 10 that the substrate is a glass substrate having a primary amino group formed on the surface, a sulfanil (SH) group is bonded to the terminal of the substance, and the amino group and the sulfanil group are bonded together by a compound represented by the formula I 15 or the formula II through a reaction between the amino group and the succinimide ester site of the compound and a reaction between the sulfanil group and the bromobenzyl site of the compound. Note that,

represented by the following formula I.



Formula I

Also, the structure containing nitrobenzen can  
5 be with a compound represented by the following  
formula II:

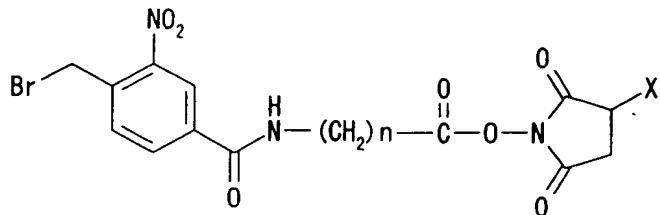


Formula II

(wherein n is 3 to 5, and X is H or SO<sub>3</sub>Na).

10 In addition, at that time, it is preferable  
that the substrate is a glass substrate having a  
primary amino group formed on the surface, a sulfanil  
(SH) group is bonded to the terminal of the substance,  
and the amino group and the sulfanil group are bonded  
15 together by a compound represented by the formula I  
or the formula II through a reaction between the  
amino group and the succinimide ester site of the  
compound and a reaction between the sulfanil group  
and the bromobenzyl site of the compound. Note that,

be constructed with a compound represented by the following formula II:

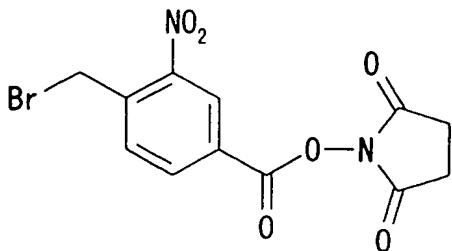


Formula II

5 (wherein n is 3 to 5, and X is H or SO<sub>3</sub>Na).

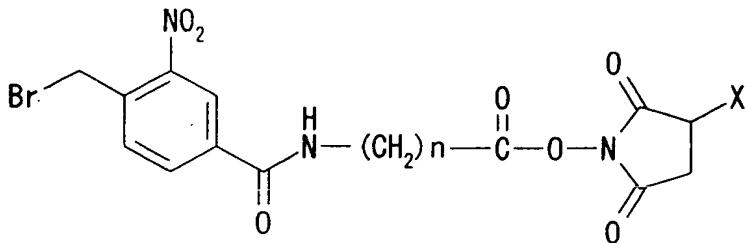
In addition, at that time, it is preferable that the substrate is a glass substrate having a primary amino group formed on the surface, a sulfanil (SH) group is bonded to the terminal of the substance, 10 and the amino group and the sulfanil group are bonded together by a compound represented by the formula I or the formula II through a reaction between the amino group and the succinimide ester site of the compound and a reaction between the sulfanil group 15 and the bromobenzyl site of the compound. Note that, the formation of a primary amino group on the glass substrate is preferably carried out by using a silane coupling agent having the primary amino group.

Alternatively, it is possible that the 20 substrate is a glass substrate having a sulfanil group formed on the surface, an amino group is bonded to the terminal of the substance, and the sulfanil group and the amino group are bonded together by a



Formula I

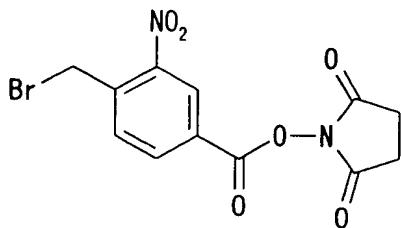
Also, the structure containing nitrobenzene can be constructed with a compound represented by the 5 following formula II:



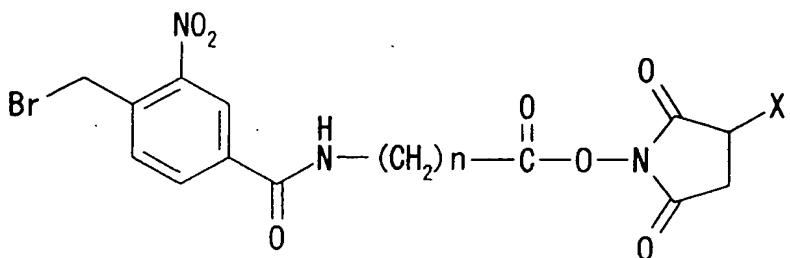
Formula II

(wherein n is 3 to 5, and X is H or  $\text{SO}_3\text{Na}$ ).

In addition, at that time, it is preferable 10 that the substrate is a glass substrate having a primary amino group formed on the surface, a sulfanil (SH) group is bonded to the terminal of the substance, and the amino group and the sulfanil group are bonded together by a compound represented by the formula I 15 or the formula II through a reaction between the amino group and the succinimide ester site of the compound and a reaction between the sulfanil group and the bromobenzyl site of the compound. Note that, the formation of a primary amino group on the glass



Formula I



Formula II

5 (wherein n is 3 to 5, and X is H or SO<sub>3</sub>Na).

At that time, as the method of fixing a desired substance on a substrate may be used one in which a glass substrate having a primary amino group formed on the surface is used as the substrate, a sulfanil 10 (SH) group is bonded to one end of the substance, and bonding between the amino group and the sulfanil group is carried out by a compound represented by the formula I or formula II, that is, a reaction between the amino group and the succinimido ester site of the 15 compound and a reaction between the sulfanil group and the bromobenzyl site of the compound. In this case, the formation of a primary amino group on the glass substrate can be carried out by using a silane

nitrogen laser beam.

5. The method according to claim 1, wherein the substance fixed on the substrate is nucleic acid.

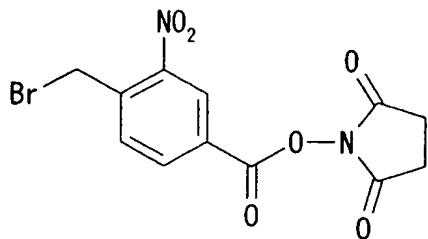
5

6. The method according to claim 1, wherein a structure containing nitrobenzene is selected as the partial structure to be disconnected by the irradiation of light.

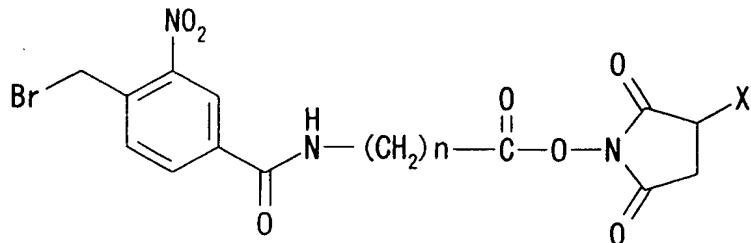
10

7. (amended) The method according to claim 6, wherein the structure containing nitrobenzene is constructed with a compound represented by the following formula I or II:

15



Formula I



Formula II

(wherein n is 3 to 5, and X is H or SO<sub>3</sub>Na).

the nucleic acid is DNA.

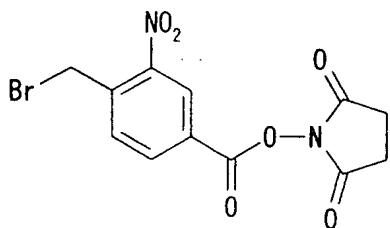
19. The biochip according to claim 17, wherein  
the nucleic acid is RNA.

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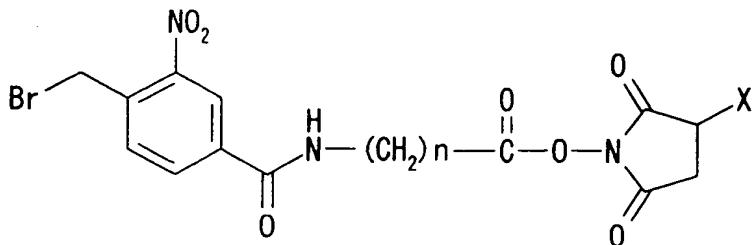
20. The biochip according to claim 17, wherein  
the nucleic acid is PNA (peptide nucleic acid).

21. The biochip according to claim 16, wherein  
10 the partial structure to be disconnected by the  
irradiation of light has a structure containing  
nitrobenzene.

22. (amended) The biochip according to claim  
15 21, wherein the structure containing nitrobenzene is  
constructed with a compound represented by the  
following formula I or II:



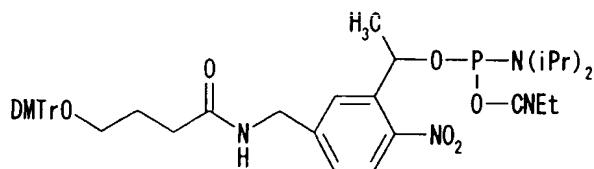
Formula I



Formula II

(wherein n is 3 to 5, and X is H or SO<sub>3</sub>Na).

5 23. The biochip according to claim 21, wherein  
the structure containing nitrobenzene is constructed  
with a compound represented by the following formula  
III:



10 Formula III

(wherein DMTrO is a dimethoxytrityloxy group and CNET  
is a 2-cyanoethyl group).

15 24. A method of acquiring data on the mass of a  
bio-related substance on each matrix of a biochip  
having a plurality of bio-related substances fixed on  
a substrate in a matrix form and the mass of a  
substance which interacts with the bio-related  
substance, the method comprising the steps of:

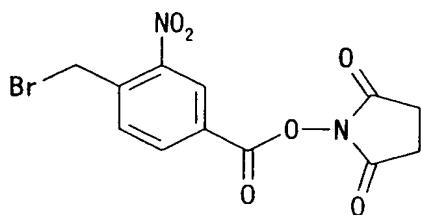
20 fixing the bio-related substance on each matrix

light used for analysis of the MALDI-TOF MS method.

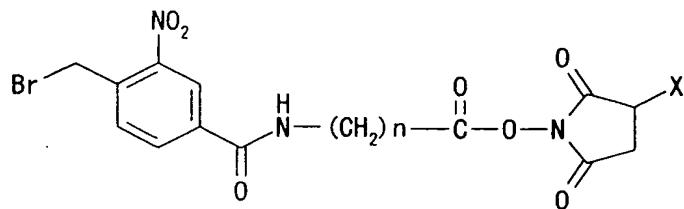
29. The method according to claim 27, wherein the laser light used for analysis of the MALDI-TOF MS 5 method is nitrogen laser light with a wavelength of 337 nm.

30. The method according to claim 27, wherein in the process (5), a structure containing 10 nitrobenzene is selected as the partial structure to be disconnected by the irradiation with light.

31. (amended) The method according to claim 27, wherein the structure containing nitrobenzene is 15 structured using a compound represented by the following formula I or II:



Formula I



(where, n is 3 to 5, X=H or SO<sub>3</sub>Na).

32. The method according to claim 31, wherein  
the substrate is a glass substrate on the surface of  
5 which a primary amino group is formed, a sulfanil  
(SH) group is bonded to a 5'-terminal of the primer,  
and the amino group is bonded to the sulfanil group  
via a compound represented by the formula I or a  
compound represented by the formula II by a reaction  
10 between the amino group and a succiimidoester site of  
the compound and a reaction between the sulfanil  
group and a bromobenzyl site of the compound.

33. The method according to claim 32, wherein  
15 the primary amino group is formed on the glass  
substrate by using a silane coupling agent having a  
primary amino group.

34. The method according to claim 31, wherein  
20 the substrate is a glass substrate on the surface of  
which a sulfanil group is formed, an amino group is  
bonded to a 5'-terminal of the primer, and the amino  
group is bonded to the sulfanil group via a compound  
represented by the formula I or a compound  
25 represented by the formula II by a reaction between  
the sulfanil group and bromobenzyl site of the  
compound and a reaction between the amino group and a